

Presentation To The EPA Mobile Source
Technical Review Subcommittee
October 16, 2002
Dearborn, Michigan

Some Considerations Regarding Biodiesel Fuels

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Engine Manufacturers Association

- EMA represents manufacturers of internal combustion engines, including mobile source compression-ignition engines using diesel fuel
- EMA works closely with EPA and CARB on regulatory and public policy issues



Importance of Fuel Quality

- All fuels must meet quality, safety, and performance standards
- Engine makers assess impacts of fuel quality on engine performance and durability
- Use of biodiesel fuel is no different



Importance of Fuel Quality

- Fuel properties affect engine:
 - Emissions
 - Performance
 - Durability
 - Efficiency
 - Customer Satisfaction



Fuel Quality Improvements

- EMA supports efforts efforts to improve fuels that:
 - Reduce emissions
 - Improve engine performance, durability, and customer satisfaction
 - Achieve these objectives through conventional or alternate fuels



Biodiesel Fuel Issues

- Technical issues
 - Fuel quality
 - Performance and operation
 - Emissions
 - Storage and handling
 - Warranty
- Public policy issues
 - Energy independence
 - Mandates and incentives
 - Cost



Fuel Quality

- Fuel specifications critical to success
 - Worldwide Fuel Charter
 - ASTM
 - International standards
- Consistent quality regardless of source
 - Quality assurance efforts important
- Enhanced lubricity



Performance and Operation

- Power output
 - Lower power output
 - Adjustment of power ratings
 - Illegal engine tampering question
- Engine component problems identified
- Fuel system manufacturers' position
 - Biodiesel blends < 5% are generally OK
 - Higher blends need evaluation



Storage and Handling

- Long-term stability
- Cold weather operation
- Biological growth



Warranties

- Addressed by each manufacturer
- Some manufacturers indicate that fuel does not affect OEM material and workmanship warranties
- Biodiesel supplier should warrant fuel quality



Emissions

- Some reduction in PM and reactive HC
- Some increase in NO_x
- Need to assess impact of biodiesel on
 - Ability to meet future emissions standards
 - Impact on high efficiency aftertreatment technologies needed to meet 2007 standards
 - Certification and in-use compliance
 - Health effects

Public Policy Issues

- Energy independence
- Renewable fuels
- Incentives and subsidies
- Fuel cost
- Legislative and regulatory mandates



Conclusions

- At a minimum, biodiesel must meet appropriate national and international fuel quality standards
- Several technical and quality issues regarding biodiesel use need to be resolved



Conclusions

- Emissions reductions from biodiesel fuels alone will not be sufficient to meet stringent new EPA emissions standards
- Biodiesel provides some benefits in reducing PM and hydrocarbons compared to conventional diesel fuel
- More work is needed to determine impacts on certification, in-use testing, future technology, and health effects



Conclusions

- Public policy makers should determine if incentives and subsidies are appropriate, but should not mandate the use of biodiesel fuel.